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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,930	03/30/2004	Jin Woong Kim	2832-0175PUS1	2908
2292	7590	01/04/2008	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			BOZADJIAN, GEORGE D	
ART UNIT	PAPER NUMBER		1792	
NOTIFICATION DATE	DELIVERY MODE		01/04/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)
	10/811,930	KIM ET AL.
	Examiner George D. Bozadjian	Art Unit 1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 15 October 2007.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) 24 is/are withdrawn from consideration.
 5) Claim(s) 10-20 is/are allowed.
 6) Claim(s) 1-3, 9, and 21-23 is/are rejected.
 7) Claim(s) 4-8 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on October 15, 2007 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

DETAILED ACTION

Response to Amendment

1. Amendment has been acknowledged from attorney James T. Eller, Jr., attorney for applicants.

Election/Restrictions

2. Newly submitted claim 24 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Inventions 24 and 1-23 are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can use organic solvent instead of water. Therefore,

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 24 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

3. The drawings were received on October 15, 2007. These drawings are acceptable.

Specification

4. The abstract was received on October 15, 2007. The abstract is acceptable.
5. The disclosure of the specification was received on October 15, 2007. The disclosure was acceptable.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-3, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over NAKAMURA et al. (JP 2003019382, hereafter '382) in view of Hutchinson (U.S. Patent 6,647,204, hereafter '204).

'382 teaches a steam supplying apparatus (6 and 7) for a washing machine (1) [Abstract; Figs. 1-5] comprising:

a tank (7) having a water inlet (16) and a steam outlet (outlet comprised of 8, 9, and 20) [Abstract; Figs. 1-5; parags. 0014-0015];

a heater (18 – shown in Fig. 5) arranged in the tank (7), the heater adapted to heat water supplied into the tank (7), to generate steam to be supplied to the steam outlet [Abstract; Figs. 1-5; parag. 0015].

It has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense – *In re Hutchison*, 69 USPQ 138. In response to applicants’ argument that the heater is used “to heat water to generate steam to supply to steam outlet”, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the

claimed structural limitations – *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

‘382 teaches the limitations stated above, but does not teach an air compressible space in the tank that defines a water level limit of the tank.

However, ‘204 teaches a water level limiter arranged to provide an air-compressible space (363) in the tank (348) that defines a water level limit (section between 366 and 362) of the tank (348), the water level limiter being configured to direct water exceeding the water level limit (section between 366 and top portion of 348) into the steam outlet (312) [Fig. 36; col. 13, lines 4-45; col. 17 and 18].

‘204 further teaches other embodiments that meets the metes and bounds of the third part of claim 1. This type of water level limiting system provides a number of operational and advantageous features and safety characteristics [col. 21, lines 5-12]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the water level limiting system of ‘204 as an alternative to that of ‘382 to have provided a number of operations and advantageous features and safety characteristics.

9. Claim 2: ‘382 teaches all the limitations of claim 21 above. It teaches an air chamber (section between 20 and top portion of 18) in the tank (7) above the predetermined water level limit (section between 20 and bottom portion of 18) of the tank (7), the air chamber (section between 20 and top portion of 18) being reducible in volume in accordance with an increase in the water level of the tank (7), thereby causing air existing in the air chamber (section between 20 and top portion of 18) to be compressed. It also teaches the steam supply line (9) allows excessive amount of water to be drained from the tank along with the steam generated in the tank

(7) [Abstract; Figs. 1-5; parag. 0015]. It does not teach an extension passage for the steam supply line into the tank. However, '204 teaches an extension passage (116 to 118) connected to the steam outlet (14) while extending into the tank (10), and the other end is arranged at the defined water level limit (section between 118 or 14 and bottom portion of 10) of the tank (10) to minimize the effect of surface tension that permits water droplets to creep into the line (116 to 118, and 14) during the production of steam [Figs. 15-18, 22, col. 13, lines 4-45]. The arrangement of this apparatus also meets the claimed matter when water surpasses the defined water level limit of the tank. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added such an extension line to the steam supply line (9) of '382 to have minimized the effect of surface tension that permitted water droplets to creep into the line during the production of steam, and to have formed an additional passageway for water to flow out through the steam line when the level surpasses the water level limit of the tank.

'204 also teaches an air chamber (section between 118 or 14 and top portion of 10) in the tank (10) above the defined water level limit (section between 118 or 14 and bottom portion of 10) of the tank (10), the air chamber (section between 118 or 14 and top portion of 10) inherently being reduced in volume with an increases in the water level of the tank (10), thereby causing air existing in the air chamber (section between 118 or 14 and top portion of 10) to be compressed [Figs. 4 and 22; col. 8, lines 43-51; col. 9, lines 17-26; col. 13, lines 19-45, col. 14, lines 60-67; col. 15, lines 1-6]. '204 further teaches other embodiments that meets the metes and bounds of the first part of claim 2, for example figure 36.

10. Claim 3: '382 teaches all the limitations of claim 1 above. It does not teach the water supply line extending into the tank. '204 teaches a steam supplying apparatus (342) wherein the water supply line (327) connecting the water supply unit (326) and the tank (348) extends, at an end thereof, into the tank (348) through a top portion of the tank (348) while passing through the air chamber (363) such that the end thereof is arranged at the defined water level limit (362) of the tank (348), to minimize the effect of surface tension that permits water droplets to creep into the line (327) during the production of steam [Fig. 36; col. 13, lines 4-45; col. 17 and 18]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added such an extension line to the water supply line (16) of '382 to have minimized the effect of surface tension that permitted water droplets to creep into the line during the production of steam.

11. Claim 9: The steam supplying apparatus (6 and 7) of '382 teaches the steam supply line (outlet comprised of 8, 9, and 20) having a nozzle structure (20) at an end thereof connectable to the tub (2) [Abstract; Figs. 1-5; parags. 0014-0015].

12. Claim 21: The steam supply apparatus of '382 teaches a tank (7) connectable to a water supply unit (16 via 17 adapted to supply water, the tank is connectable to a tub (2) via a steam supply line (outlet comprised of 8, 9, and 20), the steam is generated in the tank is suppliable to the tub via the steam supply line parags. 0014-0016]. It has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense – *In re Hutchison*, 69 USPQ 138. In response to applicants' argument that the heater is used "to heat water to generate steam to supply to steam outlet", it has been held that a recitation with respect to the

manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations – *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). ‘382 does not explicitly teach the water level limit. However, ‘204 teaches a water level limiter arranged to provide an air-compressible space (363) in the tank (348) that defines a water level limit (section between 366 and 362) of the tank (348), the water level limiter being configured to direct water exceeding the water level limit (section between 366 and top portion of 348) into the steam outlet (312) [Fig. 36; col. 13, lines 4-45; col. 17 and 18]. ‘204 further teaches other embodiments that meets the metes and bounds of the third part of claim 1. This type of water level limiting system provides a number of operational and advantageous features and safety characteristics [col. 21, lines 5-12]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the water level limiting system of ‘204 as an alternative to that of ‘382 to have provided a number of operations and advantageous features and safety characteristics.

13. Claim 22: ‘382 teaches a water supply valve (17) configured to selectively supply water to the tank [parags. 0015-0016].

14. Claim 23: ‘382 teaches all the limitations of claims 1 and 22 and above. It teaches a steam generator having a water supply valve that is turned ON/OFF that supplies water into the tank, wherein the water is heated to generate pressurized steam which in turn ejects out the steam supply line along with excess water [Abstract; parags. 0014-0016, and 0034]. It does not explicitly teach a pressure switch. ‘204 teaches a pressure switch (34) regulated by a gauge and an adjustable flow control valve (196) that controls the volume of water filling up the tank based on the steam pressure generated in the gauge. As the water fills up the tank and exceeds the

predetermined level, it (along with the generated steam) reduces the volume of the air chamber by compressing it thus increasing pressure. This in turn activates the pressure gauge to regulate the water flow control valve, by minimizing (which implicitly includes closing the water supply valve) or maximizing, in order to relief the pressure within the steam generator [Fig. 36; col. 13, lines 4-45; col. 17 and 18; col. 15, line 49 – col. 16, line 58]. Therefore, one of ordinary skill in the art at the time the invention was made would have used the pressure switch of '204 as the pressure controller of '382 to have regulated the flow of water into the steam generating tank to have provided pressure relief. Additionally, claims directed to an apparatus must be distinguished from prior art in terms of structure rather than function – *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

Allowable Subject Matter

15. Claims 4-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. References are available that teach some of the individual characteristics or features of the claims, but there is no motivation of any sort to combine them.
16. Claims 10-20 are allowed.
17. The following is an examiner's statement of reasons for allowance: There are no references available that teach the claimed materials as a whole. The prior art of record does not fairly teach or suggest a mesh installed at the predetermined water level limit within the context of the claim language.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

18. Applicant's arguments filed October 15, 2007 have been fully considered but they are not persuasive.

a. Applicants argue that examiner has failed to establish a *prima facie* case of obviousness regarding the use of Nakamura and Hutchinson.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

b. Applicants argue that examiner has not shown evidence of inherency in Hutchinson.

The examiner respectfully disagrees because of the explanation given in the first office action, Non-Final Rejection, on pages 6-7. Note that the amended claims no longer require the inherent features.

c. Applicants argue that the vertical orientation of Hutchinson's steam generator would not achieve the effects of the horizontally oriented steam generator of Nakamura.

Applicants provided no evidence as to the difference between the vertical orientation of Hutchinson and the horizontal orientation of Nakamura as to contrast operation and realigning them. Therefore, applicants' argument is unconvincing.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George D. Bozadjian whose telephone number is 571-270-1871. The examiner can normally be reached on M-F 8:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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